

(12) NACH DEM VERTRAG ÜBER DIE INTERNATIONALE ZUSAMMENARBEIT AUF DEM GEBIET DES
PATENTWESENS (PCT) VERÖFFENTLICHTE INTERNATIONALE ANMELDUNG.

(19) Weltorganisation für geistiges Eigentum
Internationales Büro



INTERNATIONALE
ANMELDUNG

(43) Internationales Veröffentlichungsdatum
11. August 2005 (11.08.2005)

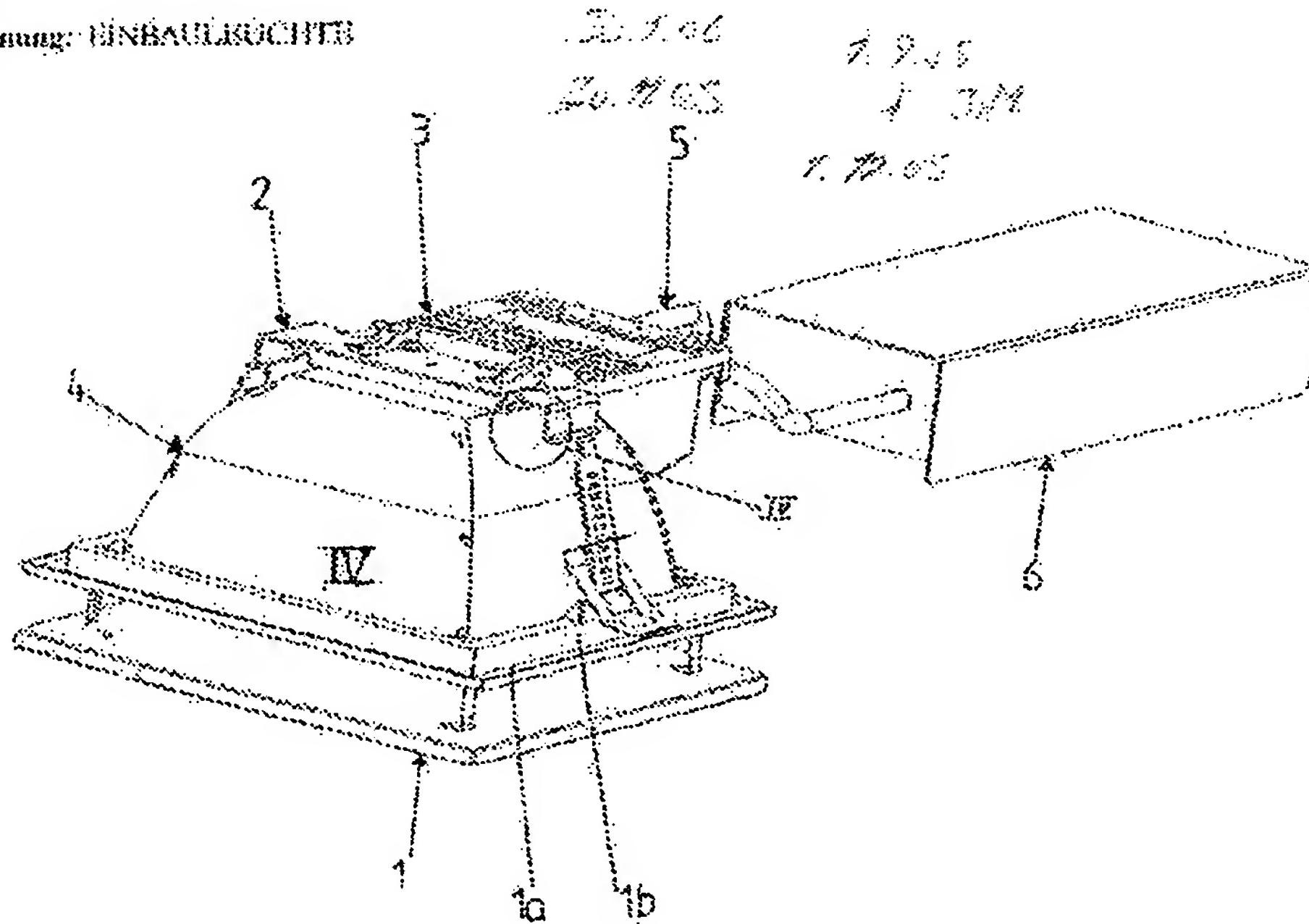
PCT

(18) Internationale Veröffentlichungsnummer
WO 2005/073628 A1

(51) Internationale Patentklassifikation ² :	F21V 21/04	(74) Anwalt: LIPPERT STACHOW & PARTNER, Frankfurter Straße 155-157, 51427 Bergisch Gladbach (DE)
(21) Internationales Aktenzeichen:	PCT/DE2005/000129	(83) Bestimmungstaaten (sofern nicht anders angegeben, für jede verfügbare nationale Schutzrechtsart): AE, AG, AL, AM, AT, AU, AZ, BA, BE, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GR, GD, GH, GM, HR, HU, ID, IL, IN, IS, IR, KE, KG, KP, KR, KZ, LC, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NL, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SX, TS, TM, TN, TR, TZ, UA, UG, US, UZ, VL, VN, YD, ZA, ZM, ZW.
(22) Internationales Anmeldedatum:	28. Januar 2005 (28.01.2005)	(84) Bestimmungstaaten (sofern nicht anders angegeben, für jede verfügbare regionale Schutzrechtsart): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SI, SZ, TZ, TG, ZM, ZW), caribisches (AM, AZ, BY, KG, KZ, MD, RU, TI, TM), europäisches (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IRL, IE, IS, IT, LT, LU, MC, NL,
(25) Erreichungssprache:	Deutsch	
(26) Veröffentlichungssprache:	Deutsch	
(30) Angaben zur Priorität:	26.2004.091.479.3 30. Januar 2004 (30.01.2004) DE	
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(54) Titel: BUILT-IN LIGHT

(54) Bezeichnung: EINBAULICHT



WO 2005/073628 A1

(57) Abstract: The invention relates to a built-in light consisting of a frame (1) which can be mounted on a ceiling, a retaining bar (2) which can be fixed to the upper side of the frame, a reflector (3) which can be connected to the frame (1) and a sealing carrier (5) which can also be connected to the frame (1). The aim of the invention is to improve a device of the above-mentioned variety such that can be mounted more easily. According to the invention, the retaining bar (2) is provided with lateral guide surfaces (2d) for guiding the sealing carrier (5) and bearing surfaces (2e) which engage from below for receiving the sealing carrier (5) in a drawer-type manner. Locking means are also provided in order to connect the sealing carrier (5) to the retaining bar (2).



PL, PT, RO, SE, SI, SK, TR), (A)PI (BE, BI, CH, CG, CL, CM, GA, GN, GQ, GW, ML, MR, NK, SN, TD, TG).

Veröffentlicht:

- ... mit internationalen Rechtseinheitsgründen
- ... vor Ablauf der für Änderungen der Ansprüche geltenden Frist; Veröffentlichung wird wiederholt, falls Änderungen eintreten.

Zur Erklärung der Zweidurchstaben-Gazette und der anderen Abkürzungen wird auf die Beklärungen ("Clarification Notes on Codes and Abbreviations") am Anfang jeder regulären Ausgabe der PCT-Gazette verwiesen:

(57) **Zusammenfassung:** Um eine Blaulichtleuchte auf einem an einer Decke montierbaren (1), einem an der Oberseite des Rahmens befestigbaren Haltebügel (2), einem mit dem Rahmen (1) verbindbaren Reflektor (3) und einem ebenfalls mit dem Rahmen (1) verbindbaren Passungsstiften (3d) derart weiterzuentwickeln, dass diese einfacher montierbar ist, wird vorgeschlagen, dass der Haltebügel (2) mit seitlichen Führungsfächten (3d) zur Führung des Passungsstifters (3) und unterliegenden Auflageflächen (e. g. zur gezielten Montage) Ausbildung des Spurverlaufspfades (3) ausweihen ist und das Rahmenmaterial zur Verbindung des Fresnelstrahlers (3a)

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Built-in light

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The invention concerns a built-in light comprising a frame which can be mounted to a ceiling and having a central opening, a retaining hoop which can be fixed to the top side of the frame and which spans bridge-like over the central opening, a reflector which can be connected to the frame, 10 a fitting carrier which can also be connected to the frame and latching means for connecting the fitting carrier to the retaining hoop.

By way of example German utility model No G 88 04 149 discloses a square built-in light of that kind, which generally nowadays is also referred to as a 'down light'. In the course of assembly, the frame is fitted into a 15 corresponding receiving opening in the ceiling and latched to the ceiling with fixing means which engage behind the rear side of the opening in the ceiling. In that situation the frame which is usually in the form of a sturdy die cast frame pulls irregularities in the ceiling straight so that the frame is caused to bear against the ceiling without a gap. Mounted on the frame at 20 the top side thereof is the retaining hoop which preferably comprises a stamped sheet metal part which is suitably bent in a U-shape. A reflector and a fitting carrier can be releasably fixed to that retaining hoop. The fitting carrier receives the fittings for the lamp means which in the installation position project laterally through the reflector into the interior of 25 the internal space of the reflector. For cost reasons the reflector is nowadays preferably made from a very thin aluminium; in contrast, for stability reasons, the retaining hoop usually comprises steel sheet. Further built-in lights of that kind are known from DE 100 47 407 and DE 295 09 094. EP 1 336 996 also discloses a hanging light. A built-in light of another 30 kind is known from DE 43 12 661.

In general terms the problem arises in built-in lamps of that kind that the entire built-in lamp, that is to say the reflector, has to be installed during electrical system installation in the phase of erecting the carcass

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shell of the building. As still further stages in construction usually have to be performed after the electrical system installation phase, the reflector from time to time gets dirty to a considerable extent or is scratched during the further building phases. Prior to final purchase the reflector either has 5 to be separately cleaned or even replaced. In particular in the case of above-mentioned DE 100 47 407 a rail connecting the fitting carrier to the frame first has to be screwed to the top side of the frame. That is complicated and time-consuming.

It is admittedly known for the reflector to be fixed releasably to the 10 retaining hoop, but then assembly of the unit carrier is also quite complicated and expensive.

Accordingly the object of the present invention is to develop a built-in light of the general kind set forth, in such a way that it is of an inexpensive structure and in addition it can be fitted more easily.

15 In accordance with the invention, in a built-in light of the kind set forth in the opening part of this specification, that object is attained in that the retaining hoop includes tongues with lateral guide surfaces for guiding the fitting carrier and support surfaces engaging thereunder for draw-like receiving the fitting carrier on the retaining hoop and that the fitting carrier 20 has laterally extending slide bars which in the installation position engage into the tongues.

The draw-like receiving configuration on the frame for receiving the fitting carrier provides that the fitting carrier can be particularly easily fixed to the frame. The fitting carrier only has to be pushed into the retaining hoop, in a direction of pushing movement which is substantially parallel to the surface of the horizontally extending part of the retaining hoop, until the latching means come into latching engagement. For that purpose provided on the retaining hoop for receiving the fitting carrier are support surfaces which engage therebeneath and lateral guide surfaces. Latching 25 means are further provided between the fitting carrier and the retaining hoop.

Preferably the latching means include latching tongues which are provided on the fitting carrier and which in the installation position engage

into undercut configurations correspondingly provided on the retaining hoop. By way of example, the undercut configurations can be in the form of simple openings on the fitting carrier.

The desired draw-like receiving means for the fitting carrier on the retaining hoop is particularly simple to produce if the fitting carrier has suitably bent-over tongues which at the same time perform the lateral guide function and the contact support function; that can be achieved for example by the tongues being bent over in an angular configuration. On those angle portions, a vertical portion functions as a lateral guide element and a horizontal portion adjoining the vertical portion serves as a support surface for the fitting carrier. Those angle configurations can be provided by being simply stamped out and bent over on the retaining hoop. Preferably those tongues are provided at both sides at the longitudinal edges of the horizontal portion of the retaining hoop in order to ensure a stable hold between the retaining hoop and the device carrier.

The invention is described hereinafter by means of a preferred embodiment with reference to the accompanying drawings in which:

Figure 1 shows a perspective view of the square built-in light,

Figure 2 shows a perspective view of the built-in light to illustrate assembly in a suspended ceiling,

Figure 3 shows a perspective view to illustrate assembly of the built-

(Continue at page 3, line 16 of the translation of the original PCT-text)

Built-in light

1. A built-in light comprising a frame (1) which can be mounted to a ceiling and having a central opening a retaining hoop (2) which can be fixed to the top side of the frame and which spans bridge-like over the central opening, a reflector (4) which can be connected to the frame (1) and a fitting carrier (3) which can also be connected to the frame (1), wherein there are provided latching means for connecting the fitting carrier (3) to the retaining hoop (2), characterised in that the retaining hoop (2) includes tongues (2c) with lateral guide surfaces (2d) for guiding the fitting carrier (3) and support surfaces (2e) engaging thereunder for draw-like receiving the fitting carrier (3) on the retaining hoop (2) and that the fitting carrier (3) has laterally extending slide bars (3a) which in the installation position engage into the tongues (2c).
2. A built-in light according to one of the preceding claims characterised in that the fitting carrier (3) has latching tongues (3b) which in the installation position engage behind corresponding undercut configurations on the retaining hoop (2).
3. A built-in light according to one of the preceding claims characterised in that the fitting carrier (3) has supports (3c) which in the installation position embrace the retaining hoop (2).